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Calculating the Paid Off-farm Work Contributions of Women in Australian Agricultural and Rural Communities

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The invaluable social and economic contribution that women collectively make is often undervalued and underestimated. This paper attempts to address this to some extent, by providing a contemporary assessment of women's contribution to paid off-farm work in rural and agricultural communities in Australia. As part of the analysis, women's contributions to paid off-farm work activities are examined. Measures of the contribution of women in terms of their contribution to paid off-farm work are calculated using values derived from specially constructed models. A brief literature review of relevant research concerning the determinants of women's contribution to paid off-farm work in the agricultural and rural communities is also incorporated. The findings presented are thus largely based on current research, with one of the main goals of the exercise being to provide more complete information regarding the contribution of women to agricultural and rural communities, to improve future policy development and implementation in relevant areas.

Field of Research: labour economics, gender economics, agricultural economics, labour market contribution, paid off-farm work.

1. Introduction

A brief overview of some of the issues which have been considered in developing the estimates of women's contributions to paid off-farm work in agricultural and rural communities is presented to highlight some of the key areas covered and omitted in this paper. At a conceptual level there are a variety of ways in which the value of the work completed by a person or particular group of people may be estimated. For example, it is possible to value work using one of the following approaches involving the measurement of:

- The additional costs that would be incurred by an individual and/or others in the community if the work was not undertaken;
- The additional value added to the goods and services produced in the economy;
- The willingness of people to pay for the work being undertaken;
- The wages actually paid to the person undertaking the work.

In practice however, the monetary value of work is commonly equated with the wages or income paid to the person who undertakes the work. This is consistent with the national accounting convention that the exchange of goods or services in a

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market, including a labour market, is a defining feature of “economic activity”. While this is a relatively straightforward approach, it presents particular challenges in the context of the current study. Firstly, women’s on farm work and contributions to on-farm household production are often not recorded as employment. While the labour devoted to farm work and on-farm household production will affect the returns to a farm as an organisational unit, this does not typically take place in a form that records “*y* dollars paid” for “women’s *x* hours of employment”.

Secondly, valuing only labour market and farm activities means that unpaid volunteer, household and community activities are neglected. While this is consistent with the “production boundary” defined in national accounting conventions, it is clear that many economic activities implicitly assume and are dependent upon the unpaid activities that take place within communities and households. There are interdependencies between unpaid and paid activities in the economy that are not fully captured by conventional national accounts.

Thirdly, attributing a dollar value to women’s and men’s contributions to agricultural, household and community activities risks diverting attention away from a wide range of activities that elude such valuations. In this respect, special reference should be made to the importance of activities that often “hold the rural community together” and contribute to improving the “quality of life” in rural communities. These roles have again been emphasised in the broader context of this paper. Developing an estimate of the monetary value of any individual’s or group’s contribution to a community is unable to capture the full extent of the contributions being made.

The models that feature in this paper were developed with full recognition of the above issues and the strengths and limitations of estimating women’s economic and social contribution to unpaid on-farm household production and as a key component of rural and regional social and economic life. Similarly it is recognised that there are some advantages and disadvantages to constructing monetary assessments of activities that have significant social, as well as economic implications. This is one reason that the following assessments should be treated with some caution and considered alongside other research outcomes such as relevant qualitative analysis. The modeling and discussion presented in this paper draws upon previous work published in the 1998 *Missed Opportunities* Report (Elix & Lambert 1998) but updates this research to reflect and incorporate more recent literature and data collections.

2. Literature Review- Analysis of Women’s Patterns of Labour Supply and their Contributions to Paid Off-farm Work

Since 1997, there has been quite a substantial growth in the availability of literature focusing on the significant social and economic contributions that women make in agricultural communities. However despite this, some gaps in understanding still remain in relation to the contributions that women make to paid work in these communities. The reviewed literature has therefore been selected based on its relevance to key determinants affecting the engagement of women in paid off-farm work. Paid off-farm work refers to work or employment of a paid nature, that involves activities and tasks not associated with or contributing to farm production and/or related operations.

In comparison with the determinants of on-farm work, there is a relatively larger amount of literature examining women's patterns of off-farm work. Much of the literature examining the off-farm work decisions of women using regression analysis has been based on data from the U.S. Numerous factors impact on women's decision to work off-farm and the number of hours they chose to work. These include age, the amount of household income, their education, the presence of young children and work experience. There is some similarity in the factors that determine the off-farm employment decisions of both women living in urban areas and those residing on farms. However several factors namely those relating to farm characteristics such as farm output, size, capital intensity, variations in the requirements of farm employment and the proximity of the farm(s) from the nearest reasonably sized town centre, appear to take precedence for women living on farms.

A 1982 Australian study on the off-farm employment decisions of farm operators found that females who were farm operators were more likely to be engaged in off-farm employment than wives of farmers or other farm household members (Robinson, McMahon and Quiggin 1982, p.32). The results presented by Gooday (1995) however failed to indicate that this was a consistent trend which had been maintained in more recent times. There has been an increased participation of Australian farm women in the paid workforce in recent times (Alston 1994). This is reflective of a more general trend which has occurred nationally over time where women have increasingly entered paid employment. Alston's 1995 study found that 50 per cent of farm women were engaged in off-farm employment, predominantly in part time work. The 1998 *Missed Opportunities* Report provided insights into the significance of women's off-farm employment when it estimated that over 80 per cent of off-farm income was attributable to the contribution of women. This particular estimate of the contribution that women make resulted in some surprise and a growing appreciation of women's roles in ensuring the survival of family farms as viable businesses (Alston 2003).

Gooday's 1995 report indicated that farms with lower gross cash incomes recorded higher levels of off-farm work for both men and women. It was found that women residing on low and medium gross cash income farms worked roughly double the full time equivalent weeks as their counterparts who lived on high income farms. In the case of medium gross income farms, the level of off-farm work completed by men on these farms was identified as being less than half of that for men living on low income farms. There was however no evident difference in the amount of off-farm work completed by women on low and medium gross cash income farms. This is consistent with the generalised view that higher levels of household income are associated with a negative effect on the decisions of women to seek off-farm employment. The findings of several U.S. studies completed on farm women also further support this assertion.

The level of equity in the farm is also believed to exert a similar effect as cash income on the level of off-farm work undertaken by both men and women in Australia. Gooday's study (1995) suggests that men and women on high or medium equity farms completed considerably less off-farm work than those on low equity farms; men were found to work 2-3 times less as many full-time equivalent (FTE) weeks as women did. The level of farm capital is also linked with the amount of off-farm work completed by men and women. In Gooday's 1995 Study of Australian farms it was found that the most off-farm work was completed on farms which had capital of less

than $450,000. This is consistent with the findings of several US studies which have been completed in the area (McCarty, Salant & Saupe 1988).

The findings of the 1995 Gooday survey indicated that participation in off-farm employment is affected by factors relating to the remoteness of the farm. The survey found that on average, fewer off-farm FTE weeks were worked by both men and women residing on farms located in more remote areas when compared to farms in other rural or regional areas. The notion that people living on more remote farms are less likely to engage in off-farm work is therefore supported by the fact that those on beef farms were found to complete lower amounts of off-farm work, with the remoteness of these types of farms and consequent lack of off-farm employment opportunities often being a contributing factor (Gooday 1995).

Two analyses of Australian Bureau of Agricultural and Resource Economics (ABARE) 1994/95 farm survey data have produced largely consistent findings. Specific findings include the following trends:

- spouses with relatively higher education levels were more likely to participate in off-farm employment
- age had a non-linear effect, with spouses more likely to increase their participation but at a declining rate than among operators
- the presence of pre-school aged children deterred spouse participation in off-farm work
- spouses participation was relatively more sensitive to changes in farm income (Garnaut, Rasheed & Rodriguez 1999; Lim-Applegate, Rodriguez & Olfert, 2002).

Kelly's and Shortall's (2002) study of off-farm work by farm women in Northern Ireland provides potential insights into the causal relationships underlying the links observed between farm financial characteristics and women's off-farm labour supply. Their findings demonstrate that farm women often seek off-farm work when the financial position of a farm declines and that this arises from a commitment to ensuring the survival of the family farm. Their decisions therefore reflect the importance of farm family households as a decision-making unit and some of the unforeseen gender implications of reductions in farm household income.

3. Methodology- Estimating Women's Contributions

3.1 Background

This section of the paper focuses on providing assessments of women's contributions to both agriculture and agricultural households and communities. It takes into account women's diverse roles in paid off-farm work activities in agricultural and rural communities. Constructing monetary values relevant to women's various roles is not an objective exercise. It involves decisions about which activities to include, how to quantify the "volume" of those activities and the choice of an appropriate dollar value.

As mentioned, the model developed in the 1998 *Missed Opportunities* Report (Elix & Lambert 1998) has been used as the basis for much of the following analysis and discussion. However, differences in data sources and availability since the 1998 *Missed Opportunities* Report means that a simple rerun of the original model with updated data has not been possible and was not deemed appropriate. This means

that there are some differences in the model and results. As a consequence, most of the assessments of women's contributions to the agricultural sector are not directly comparable with similar results published in the 1998 *Missed Opportunities* Report. Specific details relevant to both the model and data are subsequently discussed throughout the paper.

By updating the assessment of women's contribution to the agricultural sector, this section of the paper addresses several key issues. Firstly, it provides a more recent assessment of women's contribution in terms of paid off-farm work in rural and regional communities within Australia. This discussion therefore proceeds to reflect on and provide contemporary estimates of the paid off-farm work contributions that women make. National accounts and a range of other official statistics are generally based on the assumption that "economic" activities are those that involve a market transaction such as paying for a commodity or exchanging labour for a fee or wage. Taking into account women's market and non-market activities, the following analysis considers women's contributions to paid off-farm work in Australian agricultural and rural communities.

Typically, economic assessments of these roles involve an assessment of the time input from those undertaking the relevant work and the application of some particular monetary value to that time. While this approach can give a broader appreciation of women's contributions to agriculture, some important issues remain neglected. The hours of time spent in an activity will not necessarily reflect qualitative aspects of a person's work such as their productivity, skill, creativity or innovation.

The estimates incorporated in this paper assume that one person's input is identical with another's and in many cases, that the contribution of women's hours of work and employment are the same as men's. If women's work is qualitatively different because, as a group, they have relatively higher skill levels in areas such as communicating or informally exchanging information relevant to agricultural activity, then this will not be reflected in the following assessments. These are major limitations of the assessments that can only be addressed through different forms of data analysis along with a closer appreciation of the social workings of agricultural enterprises and communities.

3.2 Some Demographic and Employment Information Relating to the Australian Agricultural Sector

There have been significant changes in the number of people involved in farming and/or employed in the agricultural sector over the last two decades. It is important to understand some of these changes to provide a context for the construction of monetary assessments of women's contribution to agriculture in Australia.

Women's contributions to agriculture in 2005/06 took place within a context of both a declining number of farms and farming families. As shown in Table 1 and Table 2, estimates from the Australian Bureau of Statistics (ABS) and the Australian Bureau of Agricultural and Resource Economics (ABARE) suggest a reduction of approximately 12 per cent in the number of farming families and 17 per cent decrease in the number of farms compared with figures from the 1996 data. Similarly, Table 3 shows a reduction in the number of agricultural establishments with a value of operations in excess of $5,000 and Table 4 demonstrates declining numbers of people employed

in agricultural industries. As illustrated in Table 5, depending on which of the above indicators are used, the agricultural sector might be considered to have contracted by between 11 and 17 per cent between 1996 and 2006.

Table 1: Number of farming families – Australia 1986-2006

Year	Farming families
1986	145,000
1991	120,400
1996	115,100
2001	112,800
2006	101,700

Source: (Australian Bureau of Statistics 2004; 2006; 2008a).

Table 2: Estimated population of farms in ABARE Farm Surveys 1990-2006

Year	Broadacre Farms	Dairy	Total
1990	83,618	14,453	98,071
1991	82,066	13,851	95,917
1992	78,127	13,592	91,719
1993	76,884	13,607	90,491
1994	72,863	14,059	86,922
1995	71,026	13,854	84,880
1996	71,944	13,674	85,618
1997	70,828	13,433	84,261
1998	69,850	13,246	83,096
1999	67,874	12,781	80,655
2000	71,468	12,960	84,428
2001	70,213	12,602	82,815
2002	67,875	10,995	78,870
2003	72,256	11,266	83,522
2004	71,549	10,178	81,727
2005	70,551	10,112	80,663
2006	61,198	9,361	70,559

Source: (ABARE 2007)

Table 3: Number of agricultural establishments with EVAO* in excess of $5,000 1996- 2006

Year	Number of establishments
1996	146,612
2001	140,516
2005	129,934

*Estimated Value of Agricultural Operations
Source: (Australian Bureau of Statistics 2006; 2007a)

Table 4: Total Employment in Industry Code ANZSIC 01: Agriculture, Forestry and Fishing 1994-2006

Year	Males	Females	Total
1994	284.5	120.9	405.4
1995	270.0	127.9	397.9
1996	286.2	124.5	410.7
1997	288.0	126.9	414.9
1998	269.9	126.1	396
1999	284.7	130.4	415.1
2000	294.6	131.8	426.4
2001	297.8	138.1	435.9
2002	270.2	115.4	385.6
2003	255.8	111.1	366.9
2004	235.4	110.4	345.8
2005	245.7	106.7	352.4
2006	247.8	105.4	353.2

Source: (Australian Bureau of Statistics 2007b)

Table 5: Changes in estimates relevant to selected agricultural activity 1996-2006

	Earlier estimate (1996)	Recent estimate(2006)	Change
Number of Farming families: 1996 and 2006	115,100	101,700	-12%
Estimated Population of Number of Broadacre and Dairy Farms: 1996 and 2006	85,618	70,559	-17%
Number of Farms with EVAO in excess of $5,000: 1996 and 2005	146,612	129,934	-11%
Total Employment in Agriculture, Forestry and Fishing: 1996 and 2006	410,700	353,200	-14%

Source: Compiled from Tables 1-4, above.

The declining trends demonstrated in the demographic and employment indicators, combined with the availability of different data sources have important implications for the estimated number of farm women that forms the basis of several assessments made in this paper. In an attempt to update estimates about the number of women involved in farming activities, we have drawn on more recent data and made a number of assumptions about agricultural populations. Where possible the resulting estimates have been crossed checked with alternative data sources. The estimates and data sources are summarised in Table 6 below.

Table 6: Estimating the number of women per farm household 2006

Variable	Estimate	Data and assumptions for estimate
Number of farms	101,000	ABARE survey 2005/06 includes population estimates of 61,198 broadacre farms and 9,361 dairy farms. ABARE estimate that their survey represents about 70 per cent of farm business units. This implies that there are approximately 101,000 farms in Australia. 2006 Census data indicates that there were 101,753 farming families. This estimate includes only those families where either the reference person and/or their spouse reported their main occupation as farmer or farm manager. This number is therefore likely to more closely reflect the number of farms, rather than the total number of families involved in farming, many of whom will have occupations other than farmer or farm manager.
Persons per farm household	2.5	Estimate for non-metropolitan areas, Table 18, *Australian Farm Sector Demography* (2005:34).
Households per farm	1.7	Estimate for broadacre and dairy farm businesses from Garnaut and Lim-Applegate (1998) cited in *Australian Farm Sector Demography* (2005, page 21).
Number of farm households	171,700	Estimated number of farms multiplied by estimated number of households per farm. This estimate is broadly similar to ABS Census data which indicates that there are 166,511 families where the reference person or spouse works, is classified as working in the Australian and New Zealand Standard Industrial Classification (ANZSIC) code 01; Agriculture, Forestry and Fishing. While the Census based estimate is about 5,000 households fewer than the derived estimate of 171,000, census data tends to show fewer people employed in agricultural classifications than labour force surveys and does not include farm workers who do not consider themselves “employed” (such as some partners who assist with farm activities).
Persons in farm	429,250	Estimated number of farm households (171,000) multiplied by estimated persons per farm

households		household (2.5).
Number of women in farm households	215,700	Based on gender ratio (M for 100F) for non metropolitan areas of 99.5 Table 18, *Australian Farm Sector Demography* (2005, page 34).
Number of men in farm households	213,550	Based on gender ratio (M for 100F) for non metropolitan areas of 99.5 Table 18, *Australian Farm Sector Demography* (2005, page 34).
Estimated number of women per farm	2.14	Based on rounded estimate of number of women in farm households (251,700) divided by number of farms (101,000).

An estimate of 2.14 women per farm is broadly consistent with information that indicates a decline in the number of farm businesses, farm families and employees in agricultural classifications.

We have used the much lower estimate of the number of 215,700 farm women and 213,550 farm men as indicated above**,** which has several consequent implications. The first implication is that if there has been a considerable reduction in the number of farm women but their output within agriculture, households and local communities is either constant or growing, then it signals that there have been significant improvements in individual productivity. This however will not be captured in the following assessments. The second, and equally important, implication is that estimates of women's aggregate hours of unpaid work will be relatively low reflecting a disproportionately large estimated drop in the population of farm women. This has significant implications for both the estimated volume and value of unpaid work.

4. Discussion of Findings - Estimating Women's Paid Off-farm Work Contributions

Farm women perform most of the off-farm work that contributes to total farm incomes. This work is undertaken in a range of occupations and industries and therefore is not readily assessed by using a "top down" approach. The following section of the paper constructs estimates of women's aggregate paid off–farm work using a "bottom up approach". In this case estimates of individual women's off-farm hours of work and earnings are used to determine the aggregate contribution that women living in Australian agricultural and regional areas make in terms of their off-farm, paid work.

The need for data that are specific both to paid and unpaid work contributions as well as specific geographic locations means that a "one size fits all" approach to estimating the value of women's contributions to rural and regional communities is not feasible. The specific group of women and/or types of work needs to be well defined and, where possible, appropriate data sources located. Data sources and methods are likely to vary according to the scope of specific projects. For example, it might be possible to locate industry wide information via specific employer associations or geographically specific information from a local government or

through the use of Statistical Local Area data (as used in Garnaut, Connell, Lindsay, and Rodriguez 2001).

Time use data can therefore play a particularly important role in providing a basis for "bottom up" estimates of the contribution to paid off-farm work that women in Australian agricultural and rural communities make. ABARE farm surveys provide access to detailed data about paid off-farm work which contains a level of detail which is generally not universally available through official data sources.Table 7 and Table 8 show the participation rates in off-farm waged work for farm women and men in different agricultural sectors. As in previous tables, it is assumed that the average for "other agriculture" is the same as the average for broadacre and dairy establishments.

Information about off-farm wage income by agricultural sector is available from ABARE Farm Survey data. Survey findings include estimates for the amount of income sourced from off-farm employment and the number of weeks worked off-farm by farm operators and their spouses. The off-farm working information for farms' "main couples" has been used to apportion off-farm wage income between women and men. This approach therefore assumes that the distribution of off-farm work between farm couples is indicative of off-farm working patterns between farm women and men more generally. It also assumes that the proportion of working hours is likely to be reflected in the off-farm incomes of men and women, making no allowance for women's potentially lower wage rates due to a gender pay gap or higher wage rates due to relatively higher education levels. The estimated off-farm incomes for individual women and men has been multiplied by the farm population estimates constructed in Table 6 to arrive at aggregate assessment of women's and men's aggregate off-farm wage income contributions. Women's total contribution of over $2.7 billion represents approximately 83 per cent of the estimated $3.26 billion of total off-farm wage income.

Women's proportionally large contribution to off-farm wage income is largely attributable to the relatively high number of women who undertake off-farm work. While the highest participation rates (54 per cent) and largest number of FTE weeks (27) in off-farm work is to be found among male spouses, men constitute only 3 per cent of surveyed farms record having a male spouse. Men are typically recorded as being the farm operator or manager and in this role they perform relatively lower amounts of off-farm work. Women spouses relatively lower rate of participation in off-farm work (40 per cent) is compensated for by the relatively high number of farm women spouses who undertake this type of work; 81 per cent of surveyed farms record having a female spouse. In addition, women operators participate in off-farm work at about double the rate of men; 32 per cent compared with 16 per cent.

Table 7: Estimated contribution of wage income from off-farm work – Women 2005/06

	Spouses who work off-farm %	FTE Weeks worked off-farm per year	Operators with off-farm work %	FTE Weeks worked off-farm per year	Weighted average FTE per farm woman pa	Average off-farm income allocated to women	
						per farm woman $2005/06	Total for sector $m 2005/06
Wheat and other crops	35	16	19	1	5.3	11,742	268.7
Mixed livestock	54	22	0	0	11.3	16,661	503.0
Sheep	44	19	61	5	8.1	15,742	405.7
Beef	16	14	35	8	2.3	9,325	351.7
Sheep-Beef	27	11	50	10	3.1	10,056	142.1
Dairy	7	12	28	2	0.8	7,705	154.0
Other agriculture	40	17	32	7	6.6	13,682	88.9
All Industries	40	17	32	7	6.6	13,682	2,714.7

Source: (ABARE 2007)

Table 8: Estimated contribution of wage income from off-farm work – Men 2005/06

	Spouses who work off-farm %	FTE Weeks worked off-farm per year	Operators with off-farm work %	FTE Weeks worked off-farm per year	Weighted average FTE per farm man pa	Average off-farm income allocated to men	
						Per farm man $2005/06	Total for sector $m 2005/06
Wheat and other crops	21	11	12	4	0.5	1,138	25.8
Mixed livestock	76	39	13	4	1.1	1,627	48.6
Sheep	15	7	21	6	1.3	2,442	62.3
Beef	41	19	17	7	1.3	5,435	202.9
Sheep-Beef	88	46	16	4	1.4	4,704	65.8
Dairy	9	3	0	0	0.0	50	1.0
Other agriculture	54	27	16	5	1.1	2,239	144.1
All Industries	54	27	16	5	1.1	2,239	550.6

Source: (ABARE 2007)

5. Conclusion

It has been widely noted that women in Australia make substantial contributions to both farm output and the social fabric of rural communities. This situation is neither new or unique to Australia or agricultural work. This fact has been widely recognised as a common feature of much of the work undertaken by women worldwide. In common with this, much of the work contributions of women to Australian agricultural and rural communities is often undervalued and not well recognised (Alston 2003; Liepins 1998; Pini 2004; Pini and Shortall 2006; Williams 2002).

Of course, the hidden or invisible nature of rural women's roles is relative. The comparative invisibility of the majority of the work contributions made by women nevertheless has implications for industry and community issues that should be recognised and addressed by public policy. In both developed and less developed economies, the relative invisibility of women's contribution to agricultural and rural communities means that the full social and economic implications of this can remain unrecognised. This can have significant implications for outcomes related to human capital formation and utilisation, income distribution and the economic and social wellbeing of those in agricultural communities.

Increasing and maintaining the visibility of women's contributions is therefore critical to ensuring policy developments that maximise positive outcomes for women living in agricultural and rural communities are implemented (Alston 2002, 2006; McKenzie 2002). The move towards improving rural women's visibility has occurred alongside increasing attention being paid to methods of ensuring the wider "hidden" economy becomes visible and explicitly drawing particular focus on the economic and social value of women's contributions to particular industries, occupations and social undertakings. These range from "gender impact assessments" of specific public policies to projects that value or provide monetary estimates of women's unpaid work (Himmelweit 2002).

As the information presented in this paper demonstrates, there is a need for such economic assessments to be understood within the broader context of women's lives and the distinctive, qualitative contributions they make to their households, businesses and local communities. The need for data that is specific both to paid and unpaid work contributions as well as specific geographic locations however means that the models featured in this paper cannot be seamlessly transferred to construct similar assessments for women working in other industries. In addition, there are strong reasons for tailoring such assessments to specific studies of industries or locations, rather than adopting a uniform approach.

References

Alston, M 1995, *Women on the Land: the Hidden Heart of Rural Australia*, University of New South Wales Press, Kensington.

Alston, M 2002, 'Australian rural women: Mainstreaming the agenda', *Setting the agenda for rural women: research directions, Conference proceedings and recommendations*: 23-35. Centre for Rural Social Research: Charles Sturt University, Wagga Wagga.

Alston, M 2003, 'Women in Agriculture: the 'New Entrepreneurs', *Australian Feminist Studies*, vol. 18, no. 41, pp. 163-71.

Alston, M 2006, 'Gender mainstreaming in practice: a view from rural Australia', *NSWA Journal*, vol. 18, no. 2, pp. 123-47.

Australian Bureau of Agricultural and Resource Economics 2007, 'Australian Farm Surveys, Agsurf data.' vol. 2008. Australian Bureau of Agricultural and Resource Economics.

Australian Bureau of Statistics 1998, *How Australians Use Their Time, Catalogue 4153.0*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2004, *Australian Social Trends, Catalogue 4102.0*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2006, *Agricultural commodities 2004/05, Catalogue 7121.0*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2007a, *Australian farming in brief, Catalogue 7106.0*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2007b, *Australian labour market statistics, Catalogue 6105.0*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2008a, *Australian Census of Population and Housing 2006 Unpublished Data Request*, Australian Bureau of Statistics, Canberra.

Australian Bureau of Statistics 2008b, *How Australians Use Their Time, 2006, Catalogue 4153.0*, Australian Bureau of Statistics, Canberra.

Bittman, M 1995, *Recent Changes in Unpaid Work: Australian Bureau of Statistics Occasional Paper, Catalogue 4154.0*, Australian Bureau of Statistics, Canberra.

Elix, J & Lambert, J 1998, *Missed Opportunities - harnessing the potential of women in Australian agriculture- Volumes 1 and 2*, Rural Industries Research and Development Corporation and Department of Primary Industries and Energy, Canberra.

Garnaut, J, Connell, P, Lindsay, R & Rodriguez, V 2001, *Country Australia: influences on*
employment and population growth, ABARE Research Report 01.1, Australian Bureau of Agricultural and Resource Economics (ABARE), Canberra.

Garnaut, J, Rasheed, C & Rodriguez, G 1999, 'Farmers at work: the gender division', ABARE and Rural Industries & Research Development Corporation (RIRDC), Canberra.

Gooday, J 1995, *Women on Farms: A survey of women on Australian broadacre and dairy farms, 1993/94 (ABARE Research Report 95.10)*. ABARE, Canberra.

Goreng, TG 2002, 'Recovering our strength and cultural voice: Indigenous women in rural Australian communities engaging with rural Australia', *Setting the agenda for rural women: research directions, Conference proceedings and recommendations*: 64-67. Centre for Rural Social Research: Charles Sturt University, Wagga Wagga.

Haslam- McKenzie, F 2002. 'Strategies for getting the girls back on centre stage', *Setting the agenda for rural women: research directions, Conference proceedings and recommendations*: 36-46. Centre for Rural Social Research: Charles Sturt University, Wagga Wagga.

Himmelweit, S 2002, 'Making visible the hidden economy: The case for gender impact analysis of economic policy', *Feminist Economics*, vol. 8, no. 1, pp. 40-70.

Kelly, R & Shortall, S 2002, 'Farmers' wives: women who are off-farm breadwinners and the implications for on-garm gender relations', *Journal of Sociology*, vol. 38, no. 4, pp. 327-43.

Kuznets, S 1941, *National Income and its Composition 1919-1938*. National Bureau of Economic Research, New York.

Liepins, R 1998, 'The gendering of farming and agricultural politics: a matter of discourse and power', *Australian Geographer*, vol. 29, no. 3, pp. 371-88.

Lim-Applegate, H, Rodriguez, G & Olfert, R 2002, 'Determinants of non-farm labour participation rates among farmers in Australia', *Australian Journal of Agricultural and Resource Economics*, vol. 46, no.1, pp. 85-98.

McCarty, M, Salant, P & Saupe, WE 1988, 'Off-Farm labor allocation by married farm women: research review and new evidence from Wisconsin', in WG Haney and JB Knowles (ed.), *Woman and Farming: Changing Roles, Changing Structures,* Westview Press, Boulder, pp.135-52.

Pini, B 2003, 'Increasing women's participation in agricultural leadership: strategies for change', *Journal of the Australian and New Zealand Academy of Management*, vol. 9, no.1, pp. 66-79.

Pini, B 2002, 'Constraints to women's involvement in agricultural leadership', *Women in Management Review*, vol. 17, no. 5/6, pp. 276-84.

Pini, B 2004, 'Counting them in, not out: Surveying farm women about agricultural leadership', *Australian Geographical Studies*, vol. 42, no. 2, pp. 249-59.

Pini, B & Shortall, S 2006, 'Gender equality in agriculture: examining State intervention in Australia and Northern Ireland', *Social Policy and Society*, vol. 5, no. 2, pp. 199-206.

Reid, MG 1934, *Economics of Household Production*, Wiley, New York.

Robinson, C, McMahon PJ & Quiggin JC 1982, 'Labour supply and off-farm work by farmers: theory and Estimation', *Australian Journal of Agricultural Economics*, vol. 26, no. 1, pp. 23-38.

Rodriguez, V, Phantipa, P & Griffiths, G 2006, 'Indigenous people working in agriculture, fisheries and forestry', Australian Bureau of Agricultural and Resource Economics (ABARE), Canberra.

Roisin, K & Shortall, S 2002, 'Farmers' wives: women who are off-farm breadwinners and the implications for on-farm gender relations', *Journal of Sociology*, vol. 38, no.4, pp. 327-43.

Whittenbury, K 2002, 'Obscuring potential alternatives: how traditional ideology influences expectations of and for women in a rural community', *Setting the agenda for rural women: research directions, Conference proceedings and recommendations*: 150-60. Centre for Rural Social Research: Charles Sturt University, Wagga Wagga.

Williams, R 2002, 'Recognising and valuing women in developing policy for community capacity building: a focus on the interplay between leadership and social capital', *Setting the agenda for rural women: research directions, Conference proceedings and recommendations*: 161-76. Centre for Rural Social Research: Charles Sturt University, Wagga Wagga.